



EFFECTS OF PRENATAL EXPOSURE TO COCAINE ALCOHOL OR OTHER DRUGS

Experts now estimate that one-half to three-quarters of a million infants are born each year who have been exposed to one or more illicit drugs in utero. When the legal drugs—alcohol and tobacco—are added, the figure rises to considerably more than one million substance exposed infants.

Although prenatal drug exposure has captured a great deal of public attention, prenatal exposure to alcohol is more widespread and has perhaps an even more serious impact. The National Institute on Drug Abuse estimates that 60 percent of women of childbearing age consume alcoholic beverages despite the fact that alcohol consumption during pregnancy is implicated in a wide range of birth defects and developmental disabilities, including mental retardation, physical abnormalities, and visual and auditory impairments.

Estimates of the Extent of Prenatal Exposure to Alcohol and Other Drugs

Prevalence estimates vary. One study estimates that 11 percent of all newborns, more than 459,690 children born each year, have been exposed to illicit drugs. Another study estimates that more than 739,000 women each year use one or more illegal substances during a pregnancy.

The dramatic increase in the popularity of cocaine (and especially crack) during the late 1980s prompted much of the contemporary concern with prenatal drug exposure. Estimates of the percentage of children born prenatally exposed to cocaine (including crack) each year range from 1 to 4.5 percent. Using these rates, it is estimated that women give birth to between 41,790 and 188,055 children each year who were exposed to cocaine. (Unless otherwise noted, National Center for Health Statistics estimates of live births for 1990 provide the basis for all statistical extrapolations.)

Despite the growing use of cocaine, marijuana remains the most widely used illicit drug. Rates of

newborns prenatally exposed to marijuana have been estimated at levels from 3 to almost 20 percent, which would indicate that every year women give birth to between 125,370 and 835,800 children prenatally exposed to marijuana.

Prenatal exposure to alcohol far exceeds that of illicit drugs. One study estimates that women give birth to more than 2.6 million infants exposed to alcohol each year. Fetal Alcohol Syndrome (FAS) annually affects between 1.3 and 2.2 children per 1,000 live births in North America. Researchers estimate that cases of Alcohol-Related Birth Defects (ARBD) exceed those of FAS by a ratio of 2:1 to 3:1. This would indicate that women in the U.S. annually give birth to between 16,548 and 22,064 children exhibiting the effects of prenatal exposure to alcohol.

Other evidence also indicates that the number of children born exposed to alcohol and other drugs is high.

- 4.5 million (7.7 percent) of the women of childbearing age in the U.S. have used an illicit drug in the past month, including 601,000 cocaine users and 3.3 million who have used marijuana. Many more are heavy drinkers.
- Childbearing-age women comprise the majority of women who use drugs.
- Women who use illicit drugs other than marijuana have a premarital pregnancy rate twice that of those who do not.
- The majority of women entering drug treatment programs have children.

Research on a woman's consumption of alcohol and other drugs, once she knows she is pregnant, is inconclusive. Factors such as substance, age, socioeconomic status, and the presence of prenatal care may all affect consumption. Researchers found that, while the overall rate of women who drink during pregnancy declined during the mid-1980s, the rate among less-educated women or those under the age of 25 remained the same.





Effects of Prenatal Exposure to Cocaine

Much of the current research on prenatal exposure to drugs focuses on cocaine. Despite this, the perinatal and developmental effects of such exposure remain topics of controversy.

One study has implicated prenatal exposure to cocaine in an increased risk of stillbirth. Cocaine's involvement in Sudden Infant Death Syndrome (SIDS), however, remains inconclusive, largely because of the difficulties in controlling for possible confounding factors. Some studies have implied that cocaine may be implicated in irregular neonatal respiratory patterns that may be related to an elevated rate of SIDS. Other studies question this finding.

More generalized findings associate prenatal cocaine exposure to increased risks of:

- preterm delivery
- abruptio placentae, the premature detachment of a placenta
- meconium staining (Meconium is a term used to describe the dark green mucilaginous material in the intestine of the full-term fetus.)
- smaller-than-normal head size and low birthweight
- low scores on the Apgar, which assesses the condition of newborns
- disorganized behavioral states in the prenatally and neonate, which may reflect central nervous system damage

One study implies that infants exposed to cocaine in utero may have an increased risk of motor dysfunction. Some researchers suggest that prenatal cocaine exposure can increase the risk of intraventricular hemorrhages. Others maintain that such hemorrhages do not affect cocaine-exposed neonates at rates differing from the general population. Questions also exist concerning the relationship of such hemorrhages to developmental outcomes. Another study of the neurological implications of prenatal cocaine exposure did indicate that exposure may be related to Central Nervous System (CNS) abnormalities.

Some researchers indicated that some babies prenatally exposed to cocaine undergo withdrawal. However, a review of the research by another researcher concluded that a withdrawal symptom has not been identified and, therefore, it is inaccurate to describe a cocaine-exposed newborn as crack addicted.



While some studies indicate that the effects of prenatal cocaine exposure (including suspected neurological abnormalities, low birthweight, and the consequences of withdrawal) normalize within the first year after birth, preliminary reports from one longitudinal study found that 30 to 40 percent of a sample of cocaine-exposed children had language development and attention problems through at least their fourth year of life.

The results of the studies summarized in this section are not entirely consistent. Some studies find effects that other studies do not. At least one study of social cocaine users found no effects on perinatal outcomes. Such discrepancies are often attributed to differences in samples, sample size, and the purity and dosage of drugs used by subjects.

Available evidence from the newborn period is too limited and fragmented to allow any clear predictions about the effects of intrauterine exposure to cocaine on the course and outcome of child growth and development at this time to draw any definitive conclusions.

Use of Alcohol and Other Drugs During Pregnancy

- Alcohol produces by far the most serious neurobehavioral effects in the fetus when compared to other drugs including heroin, cocaine and marijuana. (Institute of Medicine Report to Congress)
- Over three times as many women used alcohol during pregnancy than used illegal drugs. (National Institute on Drug Abuse, 1994)
- In the first nationally representative survey of drug use among pregnant women, 20.4 percent or 820,000 women reported smoking cigarettes; 18.8 percent or 757,000 women reported drinking alcohol; and 5.5 percent, or 221,000 women, used an illicit drug at least once (HHS, National Institute on Drug Abuse {NIDA}, National Pregnancy and Health Survey, NIH Publication No. 96-3819, 1996, p. xxi-xxii).
- At least one of every five pregnant women uses alcohol and/or other drugs. (Substance Abuse and the American Woman, Center on Addiction and Substance Abuse, Columbia University, June 5, 1996)
- Marijuana was used during pregnancy by an estimated 2.9 percent or 119,000 women; cocaine by 1.1 percent or 45,000 women; and a psychotherapeutic medication without physician orders by 1.5 percent or 61,000 women. Crack was the form of cocaine use most frequently reported. Observed rates of use for each of the other illicit drugs included in





the survey appeared to be much lower. (National Pregnancy and Health Survey, op. cit., p. xxii).

- Black women had significantly higher rates than white women for use of any illicit drug and cocaine, and significantly higher rates than Hispanic women for use of any illicit drug and marijuana. However, the estimated number of white women using any illicit drug or marijuana was substantially greater than the number in other race/ethnic groups. In comparing differences in illicit drug use among age groups, the rates of crack cocaine use in women ages 25-29 and 30 and older were significantly higher than the rate for those under age 25. Differences by age within race/ethnic groups appeared to vary by drug, but the statistical significance of these differences was not determined. (National Pregnancy and Health Survey, op. cit., p. xxi-xxii).
- Overall and within race/ethnic groups, rates of use during pregnancy of marijuana, cocaine, and cigarettes often were significantly higher for women who were not married, currently not employed, had less than 16 years of formal education, or relied on public aid for payment of the hospital. This pattern was reversed for alcohol use, with significantly higher rates found in women who were currently employed, had completed college, or had private insurance ((National Pregnancy and Health Survey, op. cit., p. xxii).
- Estimates show 40,000 to 75,000 drug-exposed babies (1 to 2 percent of live births) to 375,000 (11 percent) are born each year. These numbers reflect maternal use of illicit drugs only and would be much larger if alcohol and nicotine were included (Cook, op. cit. p. 3).
- Cocaine use can precipitate miscarriage or premature delivery because it raises blood pressure and increases contractions of the uterus (NIDA, "Drug Abuse and Pregnancy," Capsules, 6/94, p. 2).
- Babies born to cocaine-using mothers appear to have fewer clearly discernible withdrawal symptoms than babies exposed to heroin and other narcotics in the womb. Although cocaine-exposed newborns tend to be jittery, to cry shrilly, and to startle at even the slightest stimulation these effects have generally been attributed to neurobehavioral abnormalities rather than withdrawal (Cook, op. cit., p. 31).



- The long-term effects of perinatal cocaine exposure are yet to be established. The most consistent findings show obstetrical complications, low birth weight, smaller head circumference, abnormal neonatal behavior, and cerebral infarction at birth. Children with this exposure are easily distracted, passive and face a variety of visual-perceptual problems and difficulties with fine motor skills (SAMHSA, Office for Substance Abuse Prevention, Identifying the Needs of Drug-Affected Children: Public Policy Issues, HHS Pub. No. {ADM}92-1814, 1992, p. 3; Maternal Drug Abuse, op. cit., p. 19).
- Newborns with perinatal alcohol and other drug exposure have hospital stays three times longer than those born to mothers who are drug-free (National Center on Addiction & Substance Use at Columbia University, The Cost of Substance Abuse to America's Health Care System, Report 1: Medicaid Hospital Costs, 1993, p. 40).
- Special education needs of children prenatally exposed to cocaine or crack cost \$352 million annually (NIDA, press release, 10/22/98).

References

Educational Implications of Prenatal Exposure to Drugs, RISK AND REALITY: THE IMPLICATIONS OF PRENATAL EXPOSURE TO ALCOHOL AND OTHER DRUGS, Joanne P. Brady, Marc Posner, Cynthia Lang and Michael J. Rosati, The Education Development Center, Inc. 1994. U.S. Department of Health and Human Services (DHHS) and the U.S. Department of Education (ED). Original Source:

What is Fetal Alcohol Syndrome? National Organization on Fetal Alcohol Syndrome, <http://www.nofas.org/stats.htm>.

FAS FACTS: Basic Facts About Fetal Alcohol Syndrome and Related Conditions, FAS Community Resource Center, Tucson, Arizona, <http://www.come-over.to/FASCRF>.

Alcohol- and Other Drug-Related Birth Defects, National Council on Alcoholism and Drug Dependence, Inc. (NCADD), <http://www.ncadd.org/defects.html>

This brochure was produced by
the Nebraska Council to Prevent Alcohol and Drug Abuse.

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Printed May 2001.
The Council is funded through individual, corporate and foundation support, and with state and federal funds through the Department of Health and Human Services, State of Nebraska.

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